

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**ENGINEERING AND COMPLIANCE****APPLICATION PROCESSING AND CALCULATION**

Page 1 of 8
Date: 06/03/09
A/P: See Page 1
PROCESSED BY: MS
CHECKED BY:

PERMIT TO OPERATE EVALUATION

Applicant name: Frito-Lay North America, Inc. (FACILITY ID# 346)

Mailing address: 9535 Archibald Ave.
Rancho Cucamonga, CA 91730

Equipment Location: 9535 Archibald Ave.
Rancho Cucamonga, CA 91730

EQUIPMENT DESCRIPTIONS:

Additions are shown in Bold and Deletions are Struck-through.

A/N 499293 – Modification of A/N 371972 by addition of Oven (D118), Chaff Tumbler (D116) and Vibratory Screen (D117) in SECTION D:

Equipment	ID No.	Connected to	RECLAIM Source Type/ Monitoring Unit	Emission and Requirements	Conditions
Process 1: SNACK FOOD PRODUCTION					
System 14: CHEESE PUFF LINE #3					
SCREEN, ROTARY, CHAFF TUMBLER	D116			SEE PERMIT	SEE PERMIT
SCREEN, SHAKER TABLE	D117			SEE PERMIT	SEE PERMIT
FRYER, HEAT & CONTROL, MODEL NO. PP-3610 WITH MIST ELIMINATOR BURNER, HEAT EXCHANGER/POLLUTION CONTROL, INTEGRAL AFTERBURNER, NATURAL GAS, KLEENHEAT, 1 MMBTU/HR	D95			SEE PERMIT	SEE PERMIT
OVEN, DRYING, MAXON, MODEL NO. C1 120-28 RGX (E), NATURAL GAS, BAKED CHEESE PUFF LINE, WITH BURNER LOW NOX, MAXON, CYCLOMAX, NATURAL GAS, 0.8 1.6 MMBTU/HR	D118			SEE PERMIT	SEE PERMIT

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING AND COMPLIANCE APPLICATION PROCESSING AND CALCULATION	Page 2 of 8 Date: 06/03/09 A/P: See Page 1 PROCESSED BY: MS CHECKED BY:
--	--

COOLER, CHEETOS	D96			SEE PERMIT	SEE PERMIT
SEASONING TUMBLER	D97			SEE PERMIT	SEE PERMIT

PERMIT CONDITIONS: (SEE PERMIT)

BACKGROUND:

A/N 499293 and 499294:

Frito-Lay North America, Inc. (Frito-Lay) is in the business of manufacturing snack food products. Frito-Lay Rancho Cucamonga facility manufactured tortilla corn chips, fried and baked cheese puffs. The facility is a Reclaim and Title V Facility.

On 03/25/08, the Maxon oven (Device 118, 0.8 mm Btu/hr) was issued a Permit to Construct in Section H under A/N 471591 and was pending a source test for CO and NO_x limit compliance. On March 6, 2009, the source test protocol was received and deemed conditionally acceptable. According to statements from Frito-Lay's staff, it was discovered that the burner being tested which was initially believed to be 0.8 mmBtu/hr was in fact a 1.6 mmBtu/hr burner. The facility also stated that the burner was never changed and the 1.6 mmBtu/hr burner was installed originally. Therefore, the facility immediately filed for a variance and submitted applications to modify the Maxon oven (Device 118) to change the burner rating to 1.6 mm Btu/hr. All other equipment under A/N 471591 including the fryer (D95), cooler (D96), Seasoning Tumbler (D97), Chaff Tumbler (D116) and Vibratory Screen (D117) were also placed in Section H. Since A/N 471591 was never converted to a Permit to Operate, this application was cancelled. Therefore, A/N 499293 and A/N 499294 will include all revisions in A/N 471591, but will be a modification to the previous application (A/N 371972).

On May 29, 2009, Frito-Lay submitted two applications as follows:

- A/N: 499293 Modification of Process 1, System 14 by changing the burner rating from a 0.8 MMbtu/hr burner with a 1.6 MMbtu/hr burner for the natural gas fired Maxon oven (D118).
- A/N: 499294 Facility Permit Revision associated with the modification of Process 1, System 14 – Cheese Puff Line #3.

On June 4, 2009, Frito-Lay submitted a draft summary of the source test results for the Maxon Oven (1.6 mmBtu/hr). On March 23, 2009 the first test passed for NO_x compliance test but failed for CO compliance. An evaluation of the oven discovered an incorrect sleeve was installed. In order to bring the CO emission level into compliance,

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**ENGINEERING AND COMPLIANCE****APPLICATION PROCESSING AND CALCULATION**

Page 3 of 8

Date: 06/03/09

A/P: See Page 1

PROCESSED BY: MS

CHECKED BY:

the sleeve was extended to produce a more efficient flame and create proper combustion. On April 29, 2009 the second test passed both for NOx and CO compliance.

PROCESS DESCRIPTION:

The manufacturing of Baked or Fried Cheese Puffs begins with the mixing of corn meal and water in two large mixers (D87 and D88). The raw corn meal dough then processed in six extruders (D89, D90, D91, D92, D93, and D94) where it is compressed and extruded under high temperature and pressure to form raw uncooked corn puffs. Some of the corn puffs are too small to be qualified, which are screened out by a Chaff Tumbler (rotating drum D116) and then a vibratory screen (shaker table D117). The qualified corn puffs are then either fried in hot vegetable oil in the deep fat fryer (D95) or baked in the Maxon Oven (D118). The corn puffs are sent to the cooler (D96), then processed in the seasoning equipment (D97), and finally to the packaging. The proposed modification still provides the facility the option to run either FCP or BCP on this production line. FCP and BCP cannot be produced simultaneously on this production line.

EMISSION EVALUATION:**REVISED EMISSIONS BASED ON MODIFICATION TO BURNER– (D118)**Process Emissions from modification of Oven (D118).

Changing the burner rating is not expected to change the non-combustion process emissions. In addition, there are no VOC process emissions from this oven.

Emissions due to Combustion (D118).

Recalculated combustion emissions from the Oven (D118) are expected to double since the burner rating is twice the rating of the burner as calculated for the permit to construct. However, the deep fat fryer (D95) and this Oven (D118) may not operate simultaneously therefore each pollutant determined to have the highest emission from either device is considered as the maximum emissions for the total permit unit.

1. Products of Combustion

Default emission factors are as follows (Information from “General Instruction Book for the AQMD 2007-2008 Annual Emission Reporting Program”, Appendix A):

ROG: 7 lb/mmscf**SOx:** 0.6 lb/mmscf**PM10:** 7.5 lb/mmscf

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**ENGINEERING AND COMPLIANCE****APPLICATION PROCESSING AND CALCULATION**

Page 4 of 8
Date: 06/03/09
A/P: See Page 1
PROCESSED BY: MS
CHECKED BY:

NO_x: 25 ppmV@ 3% O₂ (oven permit limit)

CO: 75 ppmV@ 3% O₂ (oven permit limit)

Device	Pollutant	Lb/hr	Lb/day	Lb/year	30 day ave.	30 Day NSR
D118 Oven	ROG	0.01	0.26	93.18	0.26	0
	SOX	0.00	0.02	7.99	0.02	0
	PM10	0.01	0.27	99.84	0.27	0
	NOX	0.048	1.16	424	1.16	1
	CO	0.088	2.12	774	2.12	3

Fryer Emissions (D95) – Obtained from Engineer Evaluation A/N 371972

1. Products of Combustion.

Default emission factors are as follows (Information from “General Instruction Book for the AQMD 2007-2008 Annual Emission Reporting Program”, Appendix A):

ROG: 7 lb/mmscf

SO_x: 0.6 lb/mmscf

PM10: 7.5 lb/mmscf

NO_x: 70 ppmV@ 3% O₂ (fryer permit limit)

CO: 699 ppmV@ 3% O₂ (fryer source test)

2. Process Emissions.

VOC: .085 lb VOC/ton material processed. Process VOC emissions were calculated using emission factors for deep fat frying and natural gas combustion in the EPA AP-42 guidance document.

PM10: .01 lbs/hr (Source Test Results)

The reported emission data obtained from the NSR system from A/N 371972 are indicated below:

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**ENGINEERING AND COMPLIANCE****APPLICATION PROCESSING AND CALCULATION**

Page 5 of 8

Date: 06/03/09

A/P: See Page 1

PROCESSED BY: MS

CHECKED BY:

Device	Pollutant	Lb/hr	Lb/day	Lb/year	30 day ave.	30 Day NSR
D95 Fryer	ROG combustion	0.005	0.12	43.7	0.12	0
	ROG process	0.005	0.12	43.7	0.12	0
	ROG total	0.01	0.24	87.4	0.24	0
	SOX	0.00	0.01	5.0	0.01	0
	PM10 combustion	.01	.24	87.35	0.24	0
	PM10 process	.01	.24	87.35	0.24	0
	PM10 total	0.02	0.48	174.7	0.48	0
	NOX	0.08	1.92	698.9	1.92	2
	CO	0.52	12.38	4,507.8	12.38	12

Cooler (D96) – Obtained from Engineer Evaluation A/N 371970

The reported emission data obtained from the NSR system from A/N 371970 are indicated below:

Device	Pollutant	Lb/hr	Lb/day	Lb/year	30 day ave.	30 Day NSR
D96 Cooler	PM10	.08	1.92	698.9	1.92	2

Other Emissions:

The emissions from the Chaff Tumbler (D116), Vibratory Screen (D117), and the Seasoning Tumbler (D97) are expected to be minimal based on the previous evaluation. The raw uncooked corn puffs from the six extruders are moist and have a size range from ¼" to ½ ".

Project Emissions (Post-Modification)

Worst case emissions for ROG and SOx are combustion emissions from the oven (D118). Worst case emissions for NOx and CO are combustion emissions from the fryer (D95). Worst case emissions for PM10 are combustion added to process emissions from the fryer (D95) added to the cooler (D96).

The worst case maximum emission data from the oven (D118), fryer (95) and cooler (96) indicated below:

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**ENGINEERING AND COMPLIANCE****APPLICATION PROCESSING AND CALCULATION**

Page 6 of 8

Date: 06/03/09

A/P: See Page 1

PROCESSED BY: MS

CHECKED BY:

Maximum Emission	Pollutant	Lb/hr	Lb/day	Lb/year	30 day ave.	30 Day NSR
D118 Combustion	ROG	0.01	0.26	93.18	0.26	0
D118 Combustion	SOX	0.00	0.02	7.99	0.02	0
D95 Combustion plus D95 Process plus D96	PM10	.01+.01+.08= 0.10	.24+.24+1.92= 2.40	873.6	2.40	2 (D95, 96)
D95 Combustion	NOX	0.08	1.92	698.9	1.92	2 (D95)
D95 Combustion	CO	0.52	12.38	4,507.8	12.38	12 (D95)

Project Emissions (Pre-Mod vs. Post-Mod)

Pollutant	Pre-Mod (lbs/day)	Post-Mod (lbs/day)	Increase (lbs/day)
ROG	0.24	0.26	0.02
SOX	0.01	0.02	0.01
PM10	2.40	2.40	0
NOX	1.92	1.92	0
CO	12.38	12.38	0

RULES EVALUATION:**Rule 212 - Standard for Approving Permits**

Paragraph 212(c)(1): Requires a public notice for all new or modified permit units that may emit air contaminants located within 1,000 feet from the outer boundary of a school. According to the website geodistance.com the nearest school, Rancho Cucamonga Middle School, is approximately 4,805 feet from the property line. A 30-Day Public Notice is not required under this paragraph.

Paragraph 212(c)(2): The equipment will not result in on-site emission increasing exceeding the daily maximum emissions as specified in the table in Rule 212(g). Therefore, a 30-day public notice period will not be required under this paragraph.

Paragraph 212(c)(3): Public notice will not be required under this paragraph. See Rule 1401 evaluation section.

Rule 401- Visible Emission: No visible emission is expected if the equipment is well maintained and properly operated. Therefore, compliance is expected.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**ENGINEERING AND COMPLIANCE****APPLICATION PROCESSING AND CALCULATION**

Page 7 of 8

Date: 06/03/09

A/P: See Page 1

PROCESSED BY: MS

CHECKED BY:

Rule 402- Nuisance: Frito-Lay North America Inc. was never issued any Notice of Violations relating to any nuisances. In addition, in the last 10 years there are no complaints in the District Compliance CLASS data base alleging Frito-Lay North America, Inc. of any nuisances. Compliance with this rule is expected without any nuisance problems.

Reg XIII and Rule 2005 – New Source Review:

REG XIII –BACT: 10/20/2000 Rev.0 - BACT Guideline Requirements for the Oven:

Subcategory/Rating/ Size	Criteria Pollutants				
	VOC	NOX	SOX	CO	PM10
Other Dryers and Ovens - Direct and Indirect Fired		30 ppmvd corrected to 3% O ₂ (04-10-98)	Natural Gas (10-20-2000)		Natural Gas (10-20-2000)

A source test was conducted to verify compliance with NO_x BACT limits. Also, the oven uses natural gas only and complies with BACT for PM₁₀.

Reg XIII –Modeling: Modeling for NO_x, CO, and PM₁₀ are less than the emissions specified in the appendix A of Rule 1303.

Reg XIII -Offsets: Emission increases only exist if emissions from the oven (D118) exceed emissions from the fryer (D95). This is because the oven (D118) cannot operate simultaneously with the fryer (D95). There is an ROG emission increase of .02 lbs/day and SO_x emission of .01 lbs/day that exceeds emissions of the permitted fryer (D95). PM₁₀, CO, and NO_x emissions from the oven (D118) does not exceed emissions from the permitted fryer (D95) and cooler (D96) combined. Therefore addition of this oven (D118) does not produce any emission increases of more than 0.5 lbs/day for any pollutant. Therefore offsets not required.

Rule 1401: Minimal increase in toxics emissions due to natural gas combustion. Compliance is expected.

Reg XXX - Title V Permits: Applications for De minimis Significant Permit Revisions require EPA 45-day review.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING AND COMPLIANCE

APPLICATION PROCESSING AND CALCULATION

Page 8 of 8

Date: 06/03/09

A/P: See Page 1

PROCESSED BY: MS

CHECKED BY:

CONCLUSIONS AND RECOMMENDATIONS:

Based on the evaluation contained herein, the subject equipment is expected to comply with all of the applicable District's rules and regulations; therefore, I recommend the Permit to Operate be granted for the Oven (D118), Chaff Tumbler (D116) and Vibratory Screen (D117).

Memo to File

Subject: CHRONOLOGY OF EVENTS

Date: 06/11/09

From: Michael Solis

Facility: Frito-Lay North America, Inc.
9535 Archibald Ave.
Rancho Cucamonga, CA 91730
ID 000346

Subject: A/N 499293, A/N 499294: 1.6 MMBtu/hr Oven (D118), Addition of Tumbler (D116) and Vibratory Screen (D117)

03/25/08 Permit to Construct Issued for A/N 471591 for addition of 0.8 MMBtu/hr Oven (D118), Tumbler (D116) and Vibratory Screen (D117)

03/06/09 Source Test Protocol Approved (0.8 MMBTU/hr Oven D118)

03/23/09 Facility Conducts Source Test on 1.6 MMBTU/hr Oven D118. (According to facility, 1.6 MMBTU/hr burner was the original installed) NOx passes and CO fails compliance test.

04/29/09 Facility Conducts 2nd Run Source Test on 1.6 MMBTU/hr Oven D118. Sleeve inside oven replaced. NOx and CO pass compliance test

05/15/09 Frito-Lay Meeting with SCAQMD. District recommends filing for variance. Company agrees to submitting applications for modification to change burner rating.

5/22/09 Petition for regular variance filed.

06/02/09 Application No. 499293 and Application No. 499294 received to change burner rating to 1.6 MMBtu/hr.

06/04/09 Received Draft Source Test Report for 1.6 MMbtu/hr Burner.

07/21/09 Variance hearing Scheduled